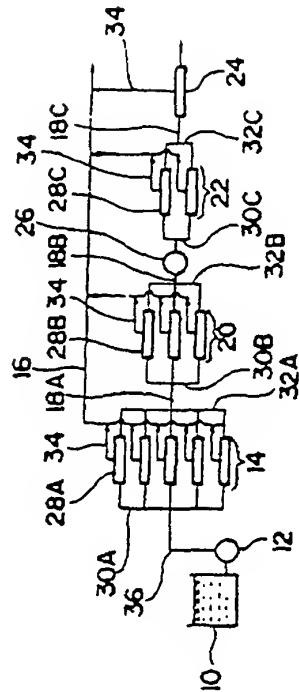


Patent Abstracts of Japan

PUBLICATION NUMBER : JP55027055
 PUBLICATION DATE : 26-02-80
 APPLICATION NUMBER : JP780099491
 APPLICATION DATE : 17-08-78

VOL: 4 NO: 54 (C - 008)
 AB. DATE : 23-04-1980 PAT: A 55027055
 PATENTEE : HITACHI PLANT ENG & CONSTR
 CO LTD
 PATENT DATE: 26-02-1980

INVENTOR : TSUCHIYA KAZUAKI
 INT.CL. : B01D13/00; C02F1/44
 TITLE : TUBE TYPE MEMBRANE SEPARATOR



ABSTRACT : PURPOSE: In waste water treatment by pipe-type membrane separator a pressure-up pump is provided between module group connection so as to compensate for the pressure drop caused by the preceding module treatment, thereby reducing the required area of the successing back osmosis membrane.
CONSTITUTION: Waste water from the tank 10 is pressurized and fed through conduit 36 to each module in the first group 14 of modules. Water permeated through back osmosis membranes is fed to drain pipe 16. Concentrated waste water passed cylinder is fed through pipe 18A to the second group 20 of modules. Concentrated waste water by the second group 20 passes through pipe 18B and is pressurized by pump 26 to a pressure higher than osmosis pressure of the back osmosis membranes of the membrane 28c in the third group 22, then fed to the module 28c. The same treatment applies to the third 22 and forth module group 24.